Defense Information Systems Agency

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Joint Internet Protocol Modem

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DPM
April 2009

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Agenda

- Program Overview
- Partners & Dependencies
- Evolution of JIPM
- System & Capabilities Overview
- Certifications
- Logistics
- Training
- High Level Schedule
- JIPM Configuration Control Board
- Summary

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Program Overview

***Mission Statement*: To provide a commercial, open-standards, interoperable, common platform IP modem that ensures efficient use of bandwidth and secure transmission of EOIP via DoD Leased and DoD Owned Transponded Satellite Communication Systems in support of the War Fighter.**

***Program Stakeholders*:**

- **Milestone Decision Authority: DISA CAE**
- **DAA and Testing Authority: DISA CIO / DISA TEMC**
- **Policy: NII**
- **Requirements: JCS J6/J6C**
- **TRANSEC: NSA**
- **Information Assurance: DISA FSO**
- **Acquisition Agent: PM DCATS**
- **Prime and Subcontractor: GlobeComm/VIASAT**

Partners and Dependencies

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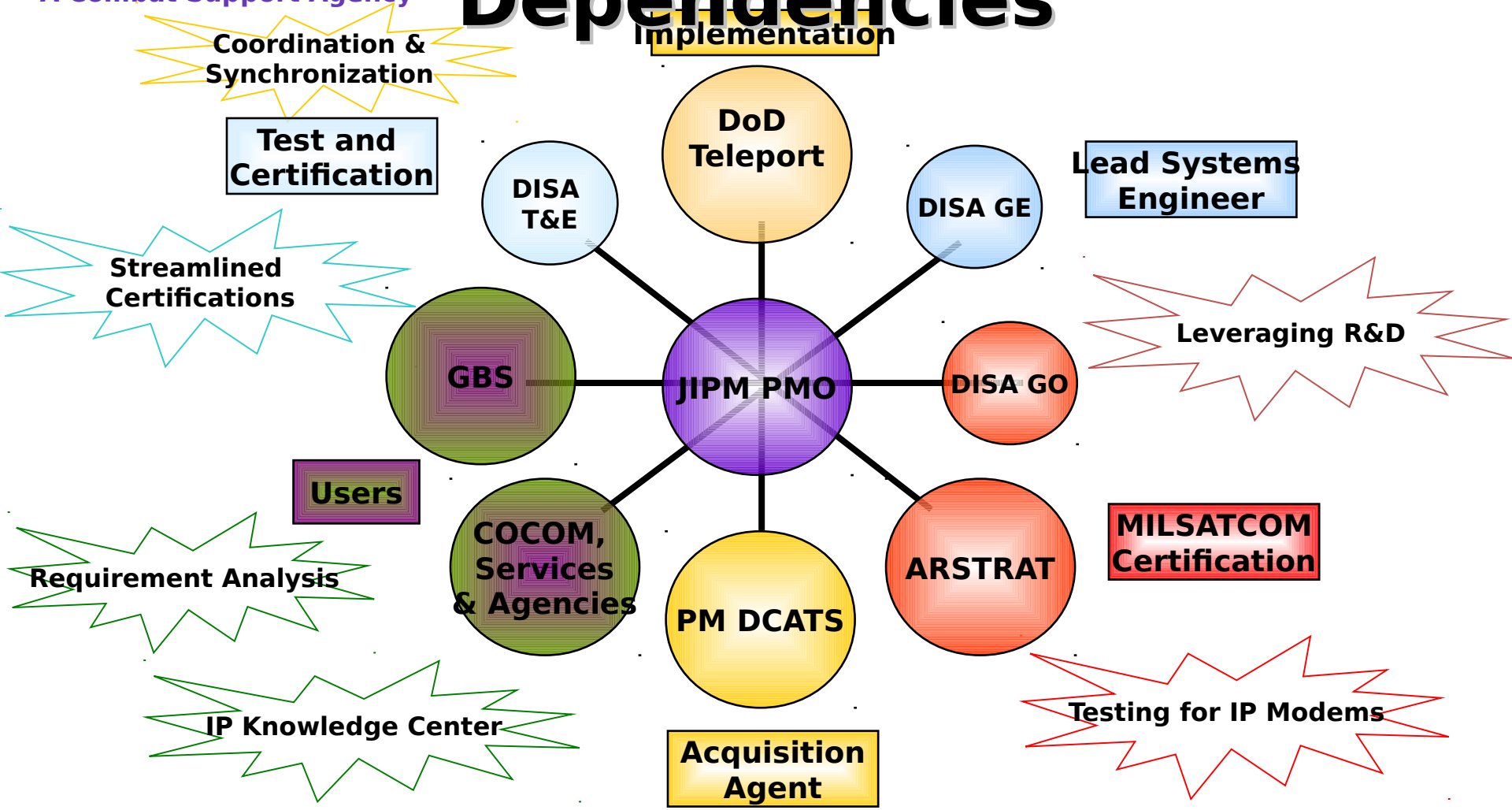

ication between all partners will be critical to the successful dep
the JIPM Full Operational Capability in support of the Warfighte

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JIPM Evolution

JIPM to Address

- Inefficient Use of Bandwidth
- Lack of interoperability
- NSA informed DoD of the inherent risks to information security on current force IP Modems (2003)
- Telecommunications Industry Alliance (TIA) Satellite Network

OSD/NII Policy Memo "DOD Secure IP Transmission Policy" signed by Mr. John Grimes dated 10 Feb 06

NSA memo outlining Information Assurance Approach for cryptographic implementation 24 Aug 06

Deputy SecDef England signed PMD IV directing TRANSEC implementation via the JIPM 15 Dec 06

OSD/NII Memo, Revised Acq Strategy for Teleport Gen 2 provided funding for JIPM development 16 April 07

JIPM Specification Documents July 07

Notional Network Control Center (NCC)

Notional JIPM Remote Modem (RM)

DISA CAE designed as JIPM Milestone Decision Authority (MDA)

JIPM Task Order Award Oct 07

JIPM System View

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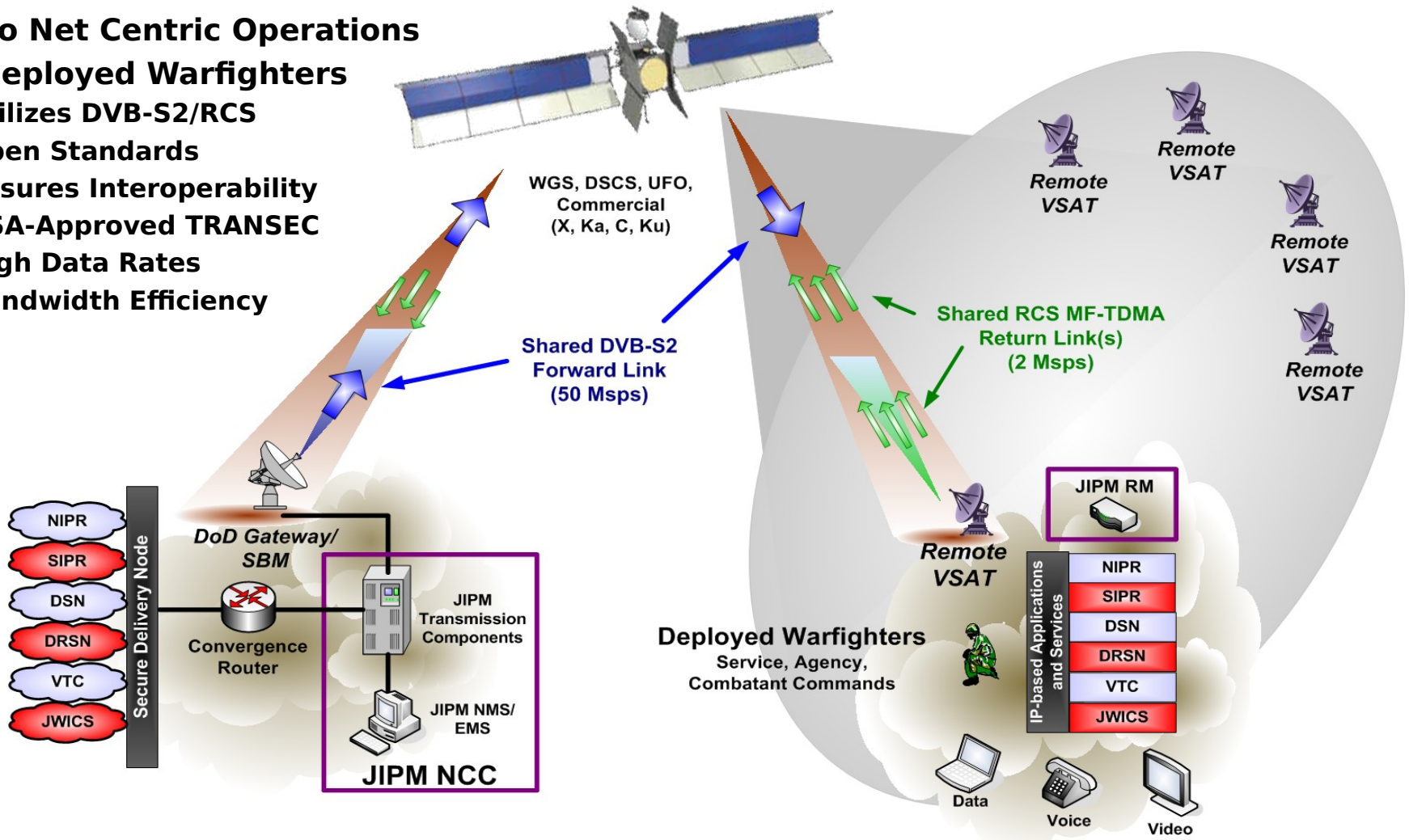
***KEY* to Net Centric Operations for Deployed Warfighters**

- Utilizes DVB-S2/RCS Open Standards
- Ensures Interoperability
- NSA-Approved TRANSEC
- High Data Rates
- Bandwidth Efficiency



JIPM NCC allows for GIG Connectivity

JIPM RM allows for Tactical LAN Connect

JIPM V-1 Baseline

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JIPM V-1

Capabilities
- DVB-S2/RCS with VCM/ACM
- TRANSEC
- S2 – 1 Msps to 50 Msps
- RCS – 128 ksps to 2 Msps
- IPv4/v6 Dual Stack
- RIPv1/RIPv2 on LAN interface
- Static Multicast
- MPE encapsulation
- Flow Control
- Dual DVB-S2 Receiver

Physical
- RM – 1U X 17” W X 14” D, <9lbs
- NCC – 2 Racks

Certifications
- NIST TRANSEC
- SatLabs DVB-RCS
- MILSATCOM
- DIACAP

- **JIPM V-1 provides the basic end-to-end performance for an open Standards-based Internet Protocol Modem**
  - Basic routing functions at the Gateway
  - Flexible formats
  - Additional Modulation types and automated processes to ensure Link closure
  - Certifications for WGS utilization
- **Benefits:**
  - Greater bandwidth efficiency gain by way of shared forward and return links
  - Enables higher throughput and more flexible deployment scenarios
- **Customers:**
  - Global Broadcast Service (GBS)
  - Teleport
  - STEP
  - Services and COCOMs

JIPM Remote (RM) Overview

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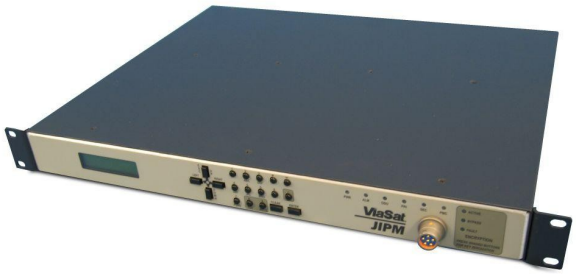
- **JIPM RM Capabilities**:
  - **1 RU design with (2) DVB-S2 demods & RCS mod**
    - **DVB-S2 demodulator with support for Adaptive Coding and Modulation (ACM) and Variable Coding and Modulation (VCM)**
    - **RM supports Return Link ACM and Dynamic MF-TDMA**
    - **RCS utilizes the following modulation and code rates:**
      - QPSK R=2/3, ¾, 6/7
      - 8PSK R=3/4, 4/5, 6/7
  - **Supports Receive-Only operation w/ & w/o TRANSEC**



Notional JIPM RM

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JIPM Network Control Center (NCC) Overview

- **Hub equipment for JIPM data processing**
  - **DVB-S2 forward link up to 50 Msps**
  - **RCS Turbo return links (1 per RCS demod)**
  - **Routers, switches, IP encapsulators**
- **Network Management & Control**
  - **Real time network management & monitoring**
  - **Local operator interface**
  - **SNMPv3 interface for remote NOC management**
  - **Redundancy support as required**
- **DVB-S2/RCS System with FIPS 140-2 TRANSEC**
  - **Hub-spoke topology per TIA-157**
  - **Interoperable per SatLabs cert with TRANSEC bypassed**

Notional JIPM NCC

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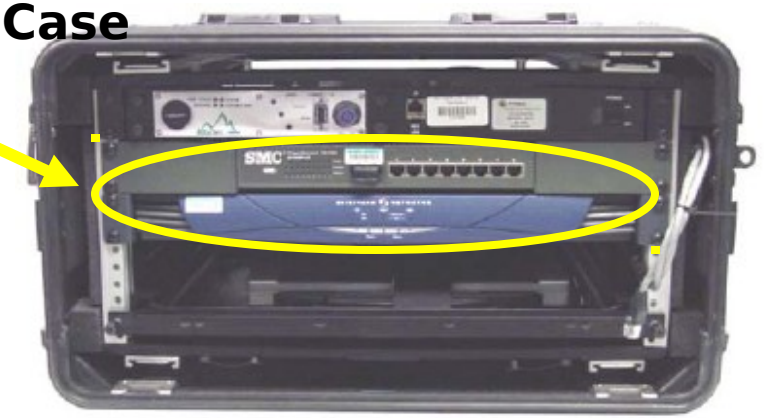
What the JIPM Remotes will Replace for GBS

The Integrated Receiver Decoder (IRD) will be replaced by the JIPM Remote Modems (RM)

Example, the current GBS Dual-Tuner RMs the JIPM will replace are:

GBS Receive Suite Transit Case



SkyStream 5540S

Ipricot S502

JIPM V-1

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JIPM V-1 Certifications

Certification Event	Requirement	Criteria	Certification Authority
SATLABS (DVB-RCS)	Evaluate if the JIPM meets SATLABS DVB/RCS interoperability requirements. This is a program requirement unique to JIPM.	SATLABS version 2.0 system specification.	SATLABS
MILSATCOM	Determine if the JIPM meets MILSATCOM criteria to operate on DSCS and WGS satellites. DISA GIG Ops requires this certification.	JIPM MILSATCOM criteria (to be developed by DISA GO-6).	DSCS/WGS SSE's
DIACAP	Authorizes the operation of DoD Information Systems. DoDI 5200.4.	JIPM Performance Specification, DoD 8500.2.	DISA FSO/CIO
NIST Certification	Evaluation of the JIPM cryptographic implementation (TRANSEC) to meet Federal Information Processing Standards (FIPS) 140-2 Security Level 2. NSA Memorandum 26 Mar 2006.	National Institute of Standards and Technology (NIST) Pub 140-2.	NIST

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Logistics

- **RMs**
  - **Utilize the military supply system**
  - **CECOM to be assigned Primary Inventory Control Point**
  - **JIPM RM Nomenclature is MD-1377/U**

- **NCCs**
  - **Utilize existing PM DCATS vehicle**
    - **Funding provided by users**
    - **Stock, store and Issue spares**
    - **Process warranty returns to the vendor**
    - **Process Return Materials Authorization (RMAs) for out of warranty repairs to the vendor**

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Training

- **New Equipment Training**
  - **Network Control Center (NCC) administrator training after installation at each site**
  - **RM Computer-Based Training (CBT) provided with the modem**
- **Ft Gordon Signal School**
  - **In discussions at this time**

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How Services Can Help

- **Ordering and Deployment**
  - **Timely response to data calls regarding procurement plans to ensure**
  - **Provide procurement information to JIPM PMO**
  - **Synchronization with Key Partners**

- **Understanding Warfighter Requirements**
  - **Participate in JIPM CCB and User Requirements Working Group**

- **Ordering Information**
  - **All procurement inquiries should be directed to the JIPM PMO POC for procurement, Joyce Willingham-Franklin via e-mail at: Joyce.Willingham-Franklin@disa.mil**

JIPM High Level Timeline

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Services POM for JIPM

Customers may begin to obligate funds for NCC & RM Purchases

DISA TEMC Approval of OA Report

Purchase, Delivery and Install of NCCs/RMs

PIR
CIR
CCB
PMR
Test/Log WIPT
PMR
JIPM Unit IOC Objective 3/31
Fielding Review
JIPM Unit IOC Threshold 6/30
1st TPO Operational Site Objective 6/30

Mar June Sep Jan Mar Jun Sep Jan Mar Jun Sep Jan Mar Jun Sep

CY 2008 2009 2010 2011

Vendor Modification/Integration

JQT Preparation IA Planning

Vendor JQT and Information Assurance Activities

Govn't Acceptance

Gov Testing Activities

TPO Procures JIPM

Teleport Tech Refresh (Post Gen2)

STEP Upgrade Schedule TBD

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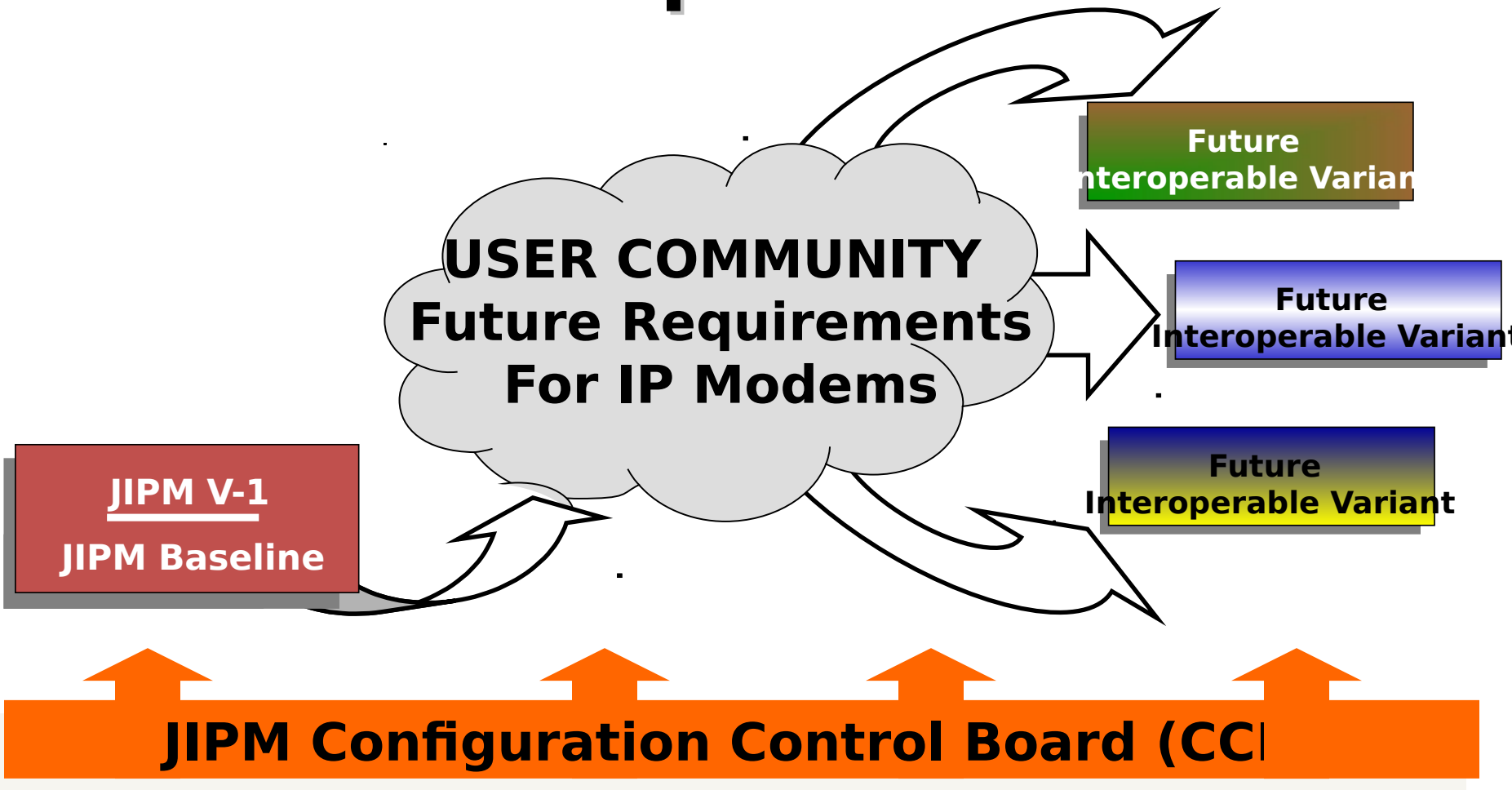
Managing Future Requirements



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Summary

- **JIPM V-1 Status**
  - ☑ **Meets DoD IP Transmission Policy**
  - ☑ **Meets Teleport ORD requirement for** TRANSEC
  - ☑ **Synchronizing with GBS PDM IV Direction #2 for** TRANSEC

- **Synchronization and coordination of IP efforts across the SATCOM community is critical to the JIPM V-1 deployment of Net-Centric IP capabilities for:**
  - **GBS**
  - **Teleport**
  - **STEP**

JIPM PMO is on track to deliver a Joint IP Modem with TRANSEC and DVB-S2/RCS to the Warfighter

Points of Contact

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